

The first 71 days of office

Reif's first 3 months; focus on community thoughts, expectations

By Bruno B. F. Faviero
STAFF REPORTER

President L. Rafael Reif, MIT's 17th, has begun his "freshman year" at MIT, as he told the Class of 2016 during its Convocation. He is now entering his third month in office since assuming the role on July 2. *The Tech* interviewed Reif about his first summer on the job and his plans for the future.

Reif's summer term

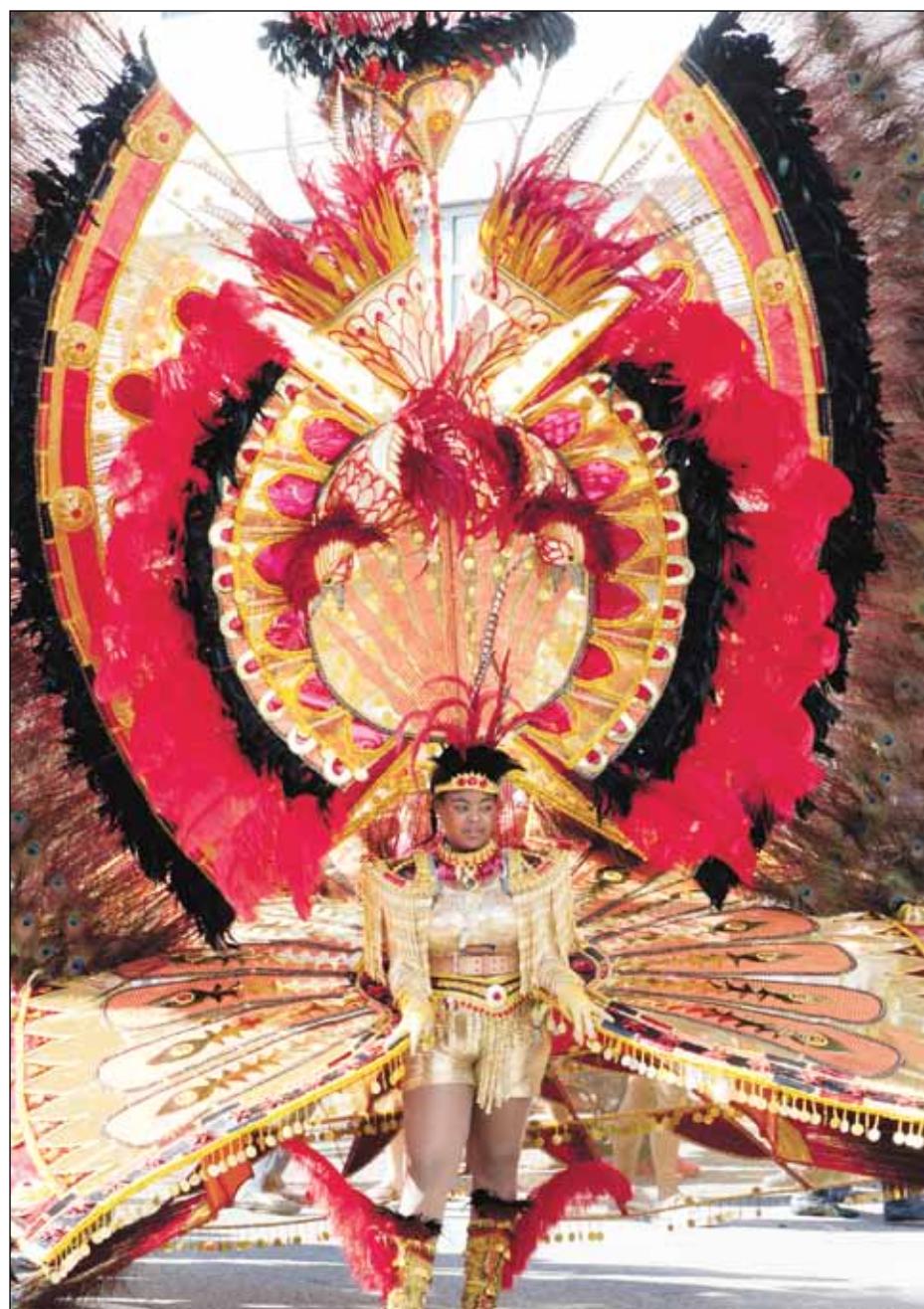
"I've been meeting people like crazy," said Reif about his first few months. The president has been on a "listening tour" with faculty, students, corporation members, donors, and friends of the MIT community to learn the thoughts and expectations of these different groups. One of his goals is to figure out how the Office of the President "can be used to help the mission of MIT," said Reif, and he plans to address specific policy ideas at his inaugural speech on Friday, Sept. 21. He has not moved into the Gray House yet, but Reif says it will be great to live in the MIT "neighborhood."

"I have said many times that MIT is my home, and I meant that it is my academic home because I had a home off-campus," said Reif, "but for MIT to really be my home, I have to live here and experience what all of you experience and have the neighborhood that all of you have."

Residential education

Reif focused on improving residential education at MIT during his time as provost. He plans to spend "quite a bit of time" addressing this topic during his inaugural speech and outlined some potential plans. Reif hopes to create an organization on campus in which students and faculty

Reif, Page 9



A performer wearing a Trinidad and Tobago-style costume danced during the Cambridge Carnival last Sunday on Main Street near the Kendall T station.

New lung cancer study suggests more-tailored drug treatment

New study analyzed individual genetic abnormalities

By Gina Kolata
THE NEW YORK TIMES

The first large and comprehensive study of the genetics of a common lung cancer finds that more than half the tumors from that cancer have mutations that might be treated by new drugs that are already in the pipeline or that could be easily developed. For the tens of thousands of patients with that cancer — squamous cell lung cancer — the results are promising because they could foretell a new type of treatment in which drugs are tailored to match the genetic abnormality in each patient, researchers say.

"This is a disease where there are no targeted therapies," said Dr. Matthew Meyerson of the Dana-Farber Cancer Institute, referring to modern drugs that attack ge-

netic abnormalities. He is a lead author of the paper, with more than 300 authors, being published online in the journal *Nature* on Sunday. "What we found will change the landscape for squamous cell carcinoma. I think it gives hope to patients," he said.

The study is part of the Cancer Genome Atlas, a large project by the National Institutes of Health to examine genetic abnormalities in cancer. The study of squamous cell lung cancer is the second genetic analysis of a common cancer, coming on the heels of a study of colon cancer. The work became feasible only in the past few years because of enormous advances in DNA sequencing that allow researchers to scan all the DNA in a cell instead of looking at its 21,000 genes one at a time. The result has been a new appre-

ciation of cancer as a genetic disease, defined by DNA alterations that drive a cancer cell's growth, instead of a disease of a particular tissue or organ, like breast or prostate or lung.

And, in keeping with the genetic view of cancer, in this study of squamous cell lung cancer, no one mutation stood out — different patients had different mutations.

As a result, the usual way of testing drugs by giving them to everyone with a particular type of cancer no longer makes sense. So researchers are planning a new type of testing program for squamous cell cancer that will match the major genetic abnormality in each patient with a drug designed to attack it, a harbinger of what many say will be the future of cancer research.

Cancer research, Page 11

IN SHORT

The annual Go Global Fair is 5 p.m. - 7 p.m. Wednesday, Sept. 12 in the Bush Room (10-105). Talk to MISTI and PSC representatives about going abroad!

Harvest in Central Square is open in its new location

at 580 Mass. Ave.

The annual campus Bike Auction for old or abandoned bicycles will begin at noon on Friday, Sept. 14 at 290 Albany St. The lot will open at 11:30 a.m. for previews. A valid and current MIT ID is required to participate.

September 15 is the deadline to waive the MIT Student Extended Insurance Plan or to enroll your family. Go to <http://medweb.mit.edu> to file your waiver.

Send news information and tips to news@tech.mit.edu.



The Zesiger Sports and Fitness Center closed due to an unexpected power outage late Monday afternoon. Students waited to re-enter and athletes warmed up outside the building.

INSTITUTE DOUBLE TAKE

A unique look at MIT sculpture: Alexander Calder's *The Great Sail*.
PHOTO, p. 13

THE MIDDLE CLASS' FINANCES

How much should we listen to Joe Biden's remarks? **OPINION, p. 4**

TENNIS STARTING OFF GREAT

MIT women Engineers open the season with resounding wins. **SPORTS, p. 16**



HEAR REIF SPEAK ON HIS FIRST 71 DAYS!

Check out *The Tech*'s exclusive interview at <http://youtu.be/PwxdMbQRyOJ>.

AFC PREDICTIONS: YOUR GUESSES?

We're betting on the Patriots, the Ravens, and the Texans.
SPORTS, p. 14

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Showdown looms over a planned anti-Kremlin march

MOSCOW — Russian Parliament members moved a step closer to stripping an opposition lawmaker of his post Monday, heightening tension before an opposition march planned for this weekend.

The commission on income and property of the Duma, Russia's lower House of Parliament, found that there were grounds for the expulsion of the lawmaker, Gennady V. Gudkov, a former Soviet intelligence officer who has emerged as one of the few political insiders to persistently and pugnaciously challenge the Kremlin. Gudkov is accused of operating a business while serving in the legislature, which is prohibited by Russian law.

The full Parliament is expected to vote on Gudkov's fate Friday.

—Ellen Barry, *The New York Times*

WEATHER

Autumn-like weather becoming calmer and warmer this week

By Roman Kowch
STAFF METEOROLOGIST

Stiff winds and cool temperatures poured into New England this weekend, behind a strong cold front which passed through Saturday evening. Hence a deep trough, located in the mid and upper levels of the atmosphere, has overtaken our recent weather. The trough's northerly winds, out of Canada, have brought much cooler and drier air.

These winds are occurring ahead of a surface high pressure approaching our region.

Once the high pressure arrives by mid-week, winds will diminish and temperatures will rise. The high pressure should also slow down and broaden, giving tranquil conditions for most of this week and keeping Tropical Storm Leslie out in the Atlantic. Temperatures should rebound into the low 80s°F (26-28°C) by Thursday and Friday.

Extended Forecast

Today: Mostly sunny. High 70°F (21°C). NW wind at 10 mph.
Tonight: Mostly clear. Low 54°F (12°C). W wind at 5-10 mph.
Tomorrow: Sunny. High 77°F (25°C). Light S wind at 5 mph.
Thursday: Sunny. High near 82°F (28°C). Low near 61°F (16°C). Light winds.

Romney calls Obama's post-convention gain 'a sugar high'

By Jim Rutenberg
and Jeff Zeleny
THE NEW YORK TIMES

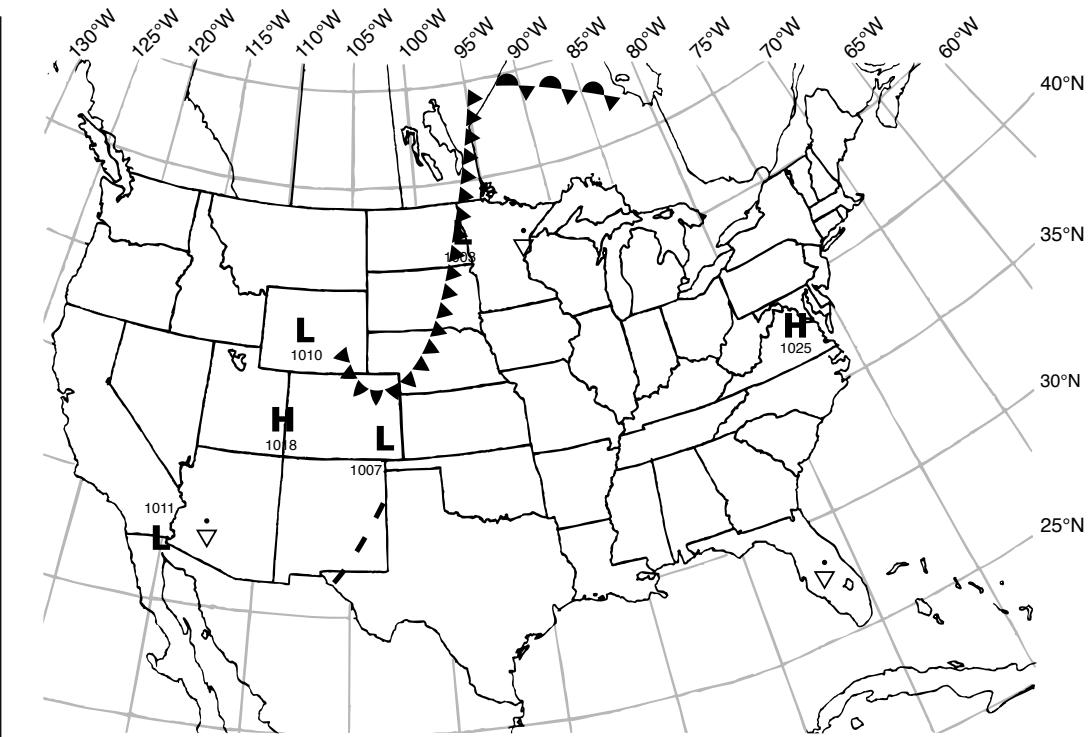
President Barack Obama raised more money in August than Mitt Romney did, outpacing him for the first time since the spring and adding to a sense in both parties that Obama

is entering the post-convention sprint to Election Day in a slightly stronger position, leaving Romney with less than two months to change that dynamic.

The first post-convention poll by a major news organization, from CNN and ORC International, showed Obama with a slight gain, 52

to 46 percent, over Romney, within the poll's margin of sampling error.

With some nervousness apparent among Republicans, Romney's campaign rushed out a memo Monday stating that any post-convention polling lift for Obama was "a sugar high" that would not last the next few weeks, let alone to Election Day.



Situation for Noon Eastern Time, Tuesday, September 11, 2012

Weather Systems		Weather Fronts		Precipitation Symbols		Other Symbols	
H	High Pressure	- - -	Trough	Snow	Rain	Fog	
L	Low Pressure	● ● ●	Warm Front	Shower	*	Thunderstorm	
§	Hurricane	▲ ▲ ▲	Cold Front	Light	*	Haze	
		△ △ △	Stationary Front	Moderate	**		
				Heavy	***		
					..		
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Thursday, September 13
34 - 101
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Food provided

Coffee Chats

Friday, September 14
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10:00 a.m. - 2:00 p.m.

Operations Event

Friday, September 14
MIT Campus - RSVP to
Brenna_Stearns@mckinsey.com
3:00 - 5:00 p.m.

Energy Event

Thursday, September 20
56 - 114
7:30 - 9:00 p.m.

Career Fair

Friday, September 21
Johnson Athletic Center - 2nd Floor
10:00 a.m. - 4:00 p.m.

Application Deadline

Sunday, September 23 at 11:59 p.m.
www.mckinsey.com/usschools

UN warns Syrian rebels over human rights violations

By **Kareem Fahim**
THE NEW YORK TIMES

BEIRUT — The top U.N. human rights official warned opposition fighters in Syria on Monday that they would not be immune from prosecution for atrocities, as videos from the Syrian city of Aleppo appeared to show a mass execution by rebel fighters of bound and blindfolded Syrian government soldiers.

One of the videos, first published Monday on the Brown Moses blog, which curates and analyzes video evidence from Syria, showed at least 20 corpses lying in a crooked row on a bloodstained street curb. The victims wore fatigues but no shoes. Several appeared to have been shot in the head.

In that video and another that captured the same scene, different rebel groups appear to take responsibility for the killings. It was impossible to immediately confirm the authenticity of the videos, or to determine exactly when and where they were recorded. If confirmed, the executions were likely to add to growing concerns about the conduct of the militias fighting to topple the Syrian president, Bashar Assad, and particularly their treatment of prisoners.

In a brutal episode in late July, a group of rebel fighters were seen in a video executing several captives — members of an Aleppo family accused of being enforcers for the government — with a spray of gunfire. In recent days, other videos

have captured summary executions by the rebels.

Speaking in Geneva on Monday, Navi Pillay, the U.N. High Commissioner for human rights, warned of atrocities by both the government and its opponents. Both, she said, "deploy snipers that target civilians."

Pillay also said the Syrian government's attacks on civilians and destruction of homes "may constitute war crimes or crimes against humanity," according to a transcript of Pillay's remarks on her office's website. And in a stern warning directed at anti-government forces, Pillay noted the "undoubted climb in human rights violations" attributed to the rebels, including abductions and summary executions.

Spreading Palestinian economic protests focus on leaders

By **Isabel Kershner**
THE NEW YORK TIMES

HEBRON, West Bank — A week of Palestinian protests against rising prices and economic hardship erupted Monday into rioting against the Palestinian Authority in this city and others in the West Bank, posing a new challenge to the Western-backed government that has worked to promote stability. Anger has mostly been directed at Salam Fayyad, the prime minister of the Palestinian Authority, an internationally respected economist who has been widely

credited abroad with shepherding the authority toward sound fiscal policies and the building of the institutions needed for a future state.

But a financial crisis caused in part by a shortfall in funds expected from international donors has forced Fayyad to introduce austerity measures. In Hebron, thousands of youths took to the streets Monday, furious that the president of the authority, Mahmoud Abbas, had not fired Fayyad and instead had expressed support for him over the weekend.

Protesters hurled stones at City

Hall and Police Headquarters here and smashed the windows of a municipal fire truck. Toward evening, they faced lines of Palestinian security officers clad in riot gear. The police officers acted with restraint, but when they were pelted with rocks by some of the protesters, they fired tear gas to disperse the crowd.

Stores were closed, and taxi and truck drivers went on strike and blocked roads to protest recent increases in fuel prices. The Palestinian Authority buys its gasoline from Israel, where the price rose sharply this month to more than \$2 per liter.

Absence of China's presumptive new leader stokes rumor mills

BEIJING — The strange disappearance from public view of China's presumptive new leader is turning a year that was supposed to showcase the Communist Party's stability into something of an annus horribilis.

Over the past week, the new leader, Xi Jinping, has missed at least three scheduled meetings with foreign dignitaries, including U.S. Secretary of State Hillary Rodham Clinton on Wednesday and the prime minister of Denmark on Monday. Speculation that his health, either physical or political, has prevented him from making public appearances is rife on the Chinese Internet, but there has been no official explanation for his absence. He was last seen in public Sept. 1.

Xi's unexplained absences are especially conspicuous on the eve of what is supposed to be China's once-in-a-decade transfer of power. It also adds to a litany of woes that have disrupted the Communist Party's hopes for a seamless political transition.

On Wednesday, after Xi did not meet Clinton and Prime Minister Lee Hsien Loong of Singapore, diplomats said privately that he had a bad back.

On Monday, the situation got odder. Foreign journalists had been invited to a photo opportunity between Xi and Prime Minister Helle Thorning-Schmidt of Denmark. On Monday, however, the Foreign Ministry denied that any such meeting had been scheduled, and said other Chinese officials would meet the Danish leader.

"We have told everybody everything," said a Foreign Ministry spokesman, Hong Lei.

—*Ian Johnson, The New York Times*

BP to sell some Gulf of Mexico oil fields for about \$5.6 billion

LONDON — BP agreed Monday to sell its stake in a group of oil fields in the Gulf of Mexico to Plains Exploration and Production Co. of Houston for about \$5.6 billion.

The announcement comes as Robert W. Dudley, chief executive of BP, is raising money to pay for cleanup costs and potential fines resulting from a huge oil spill in the Gulf of Mexico in 2010.

BP has taken charges of \$38 billion for the spill and could face substantially higher costs if it is found guilty of gross negligence in causing the disaster, which killed 11 people on the Deepwater Horizon rig and led to extensive cleanup efforts.

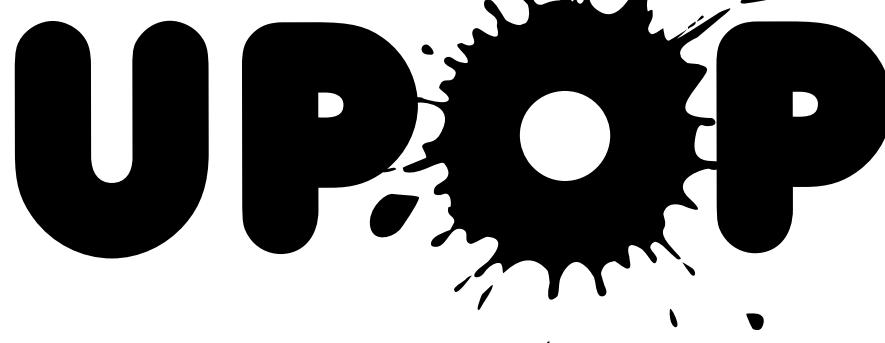
Dudley has been refocusing BP on high-risk, high-return frontier exploration and production, including deepwater fields. The company has said it is in talks to sell its 50 percent stake in its Russian affiliate, TNK-BP, which it considers a low-growth property.

The announced deal — of older, smaller assets in the Gulf of Mexico — remains true to the effort to sell mature fields. Plains Exploration, a midsize oil company with a market capitalization of about \$5.2 billion, has operations in California, the Gulf of Mexico and Texas.

—*Stanley Reed, The New York Times*

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WORLD & NATION

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Debunking the middle class

By Keith Yost
STAFF COLUMNIST

Game theory suggests that in the final sum of things, democratic politics is mostly about wooing the median voter, i.e. the individual or demographic whose inclusion will bring your coalition to 50.1 percent of the vote. Thus it comes as no surprise that in America, where the median voter is a middle-class voter, election-year rhetoric tends to focus on fetishizing those of moderate income.

2012 is no exception. If you watched the Democratic National Convention last Thursday, you probably heard Joe Biden utter these lines:

"Barack and I are about growing this economy from the middle out. ... When you do it that way, everybody does well ... because the middle class have money in their pockets. They can go out and purchase things that make the economy grow — and not only is sort of the American way, it's also economically the best way to grow a country."

The cult of the middle class doesn't just count Democrats as members. I'm sure in the weeks to come, Mitt Romney and Paul Ryan will wax rhapsodically about whatever semi-professionals and middle managers they can claim familial relations with, as much as Biden deployed stories of his used-car salesman father to heap more worship on Middle America. But Biden's convention appearance added a new and dangerous element to the middle-class mythology that deserves a thorough and immediate debunking.

Specifically, Biden put forward a two-part theory — first, that giving more money to the middle class was the best way to raise consumption, and second, that increasing consumption was the key to growing an economy.

The first part of Biden's claim is false as a matter of record. The U.S. Panel Study of Income Dynamics shows that it is the poor, not the middle class, who save the least and consume the greatest fraction of their income. If raising consumption is the goal of economic policy, as is often the case in Keynesian stimulus, aiming transfer payments at the middle class is not the best approach. And looking at the data, it isn't even the case that targeting economic stimulus toward the middle class would perform much better than spreading it across America equally. In the words of Paul Krugman, "There's no obvious reason why consumer

demand can't be sustained by the spending of the upper class — \$200 dinners and luxury hotels create jobs, the same way that fast food dinners and Motel 6 do."

The second part of Biden's claim confuses a short-term economic phenomenon, increasing consumption in a recession to combat the paradox of thrift, for a long-term formula for economic growth. Were it the case that economic growth hinged on low savings rates and large middle classes, it's doubtful that China's growth rate over the past two decades would have so greatly outpaced the United States.

The generous interpretation of Biden is that he meant his comments only as a matter of short-term policy, a way to recover from shortfalls in aggregate demand and no more.

The generous interpretation of Biden is that he meant his comments only as a matter of short-term policy, a way to recover from shortfalls in aggregate demand and no more. But a more realistic reading is that he believes a permanent policy of taxing the rich to give to the middle class is a viable method for increasing economic growth, merely on the basis that the middle class consumes more and saves less as a fraction of its total income. Nothing could be further from the truth.

The simple way to think of things is this: in any given year, society has a limited pool of resources available to it. These resources include everything from physical and human capital (factories, equipment, education), to natural resources (iron ore, oil, natural gas), to the man-hours of our laborers. And faced with this scarcity, society is forced to choose what fraction of its resources to put toward the production of consumer goods, and what fraction will be put toward increasing its stock of resources in the next year. As the national savings rate increases, more of our resources are directed toward building factories, educating students, and otherwise improving our capacity to produce, but at the expense of present consumption. When the sav-

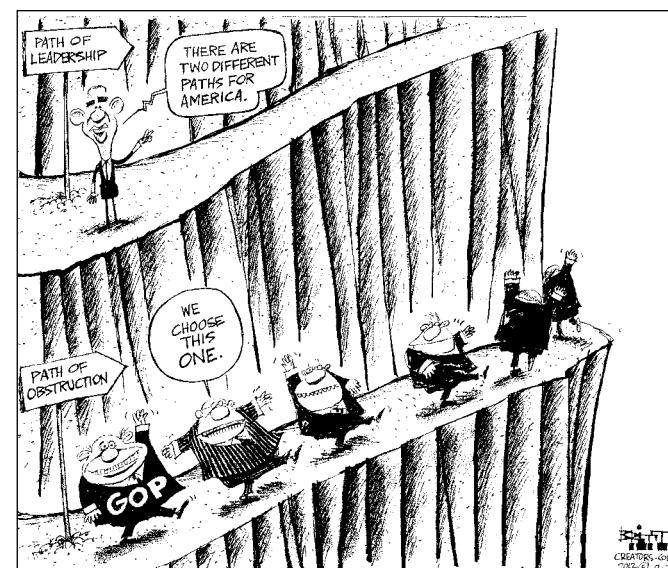
ings rate declines, the opposite happens — there is more to enjoy in the immediate present, but next year, because less savings mean fewer resources given to students, construction companies, and the like, there will be fewer college graduates, factories, and so on.

If we saved all of our income, we'd have the largest possible economy, but we'd never be spending any of it on ourselves — we would build more and more factories and train more and more workers until we got to the point we were only building new factories at the rate the existing ones depreciated, only educating the next generation fast enough to replace those departing. And if we saved none of our income (which is roughly what has happened over the past decade), we would spend everything on ourselves, but not have much to spend. The ideal savings rate, the so-called "Golden Rule Savings Rate" where steady-state consumption is maximized, lies somewhere in the middle.

Some economic growth comes naturally. As the population grows, so does our supply of labor. As technology improves, so does the rate at which we convert our available resources into goods. But much of economic growth is due to changes in savings rates, the transition from a low-savings equilibrium to a high-savings equilibrium. Though much credit should be given to improving institutions and diffusion of technology, most of today's economic success stories from the developing world can be explained as a simple matter of capital formation — as they devoted more and more of what they had toward the future, the future grew brighter.

There's no reason the United States can't enjoy this same success story. It is universally recognized that our savings rate is below the golden rule rate. And so, while in the short run we may suffer from a paradox of thrift, in the long run we suffer from a paradox of extravagance — the more we try to raise our consumption, the lower our total consumption is.

For a democrat like Joe Biden, who wishes to increase government consumption, raise taxes on private saving, and transfer wealth from those who would save to those who would continue our long spending binge, it would be convenient if voters bought his notion that these policies were a path to prosperity. For the middle class voter hoping to actually experience some prosperity, it would be better if they ignored Joe Biden.



OPINION POLICY

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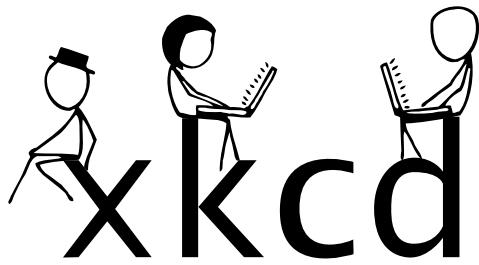
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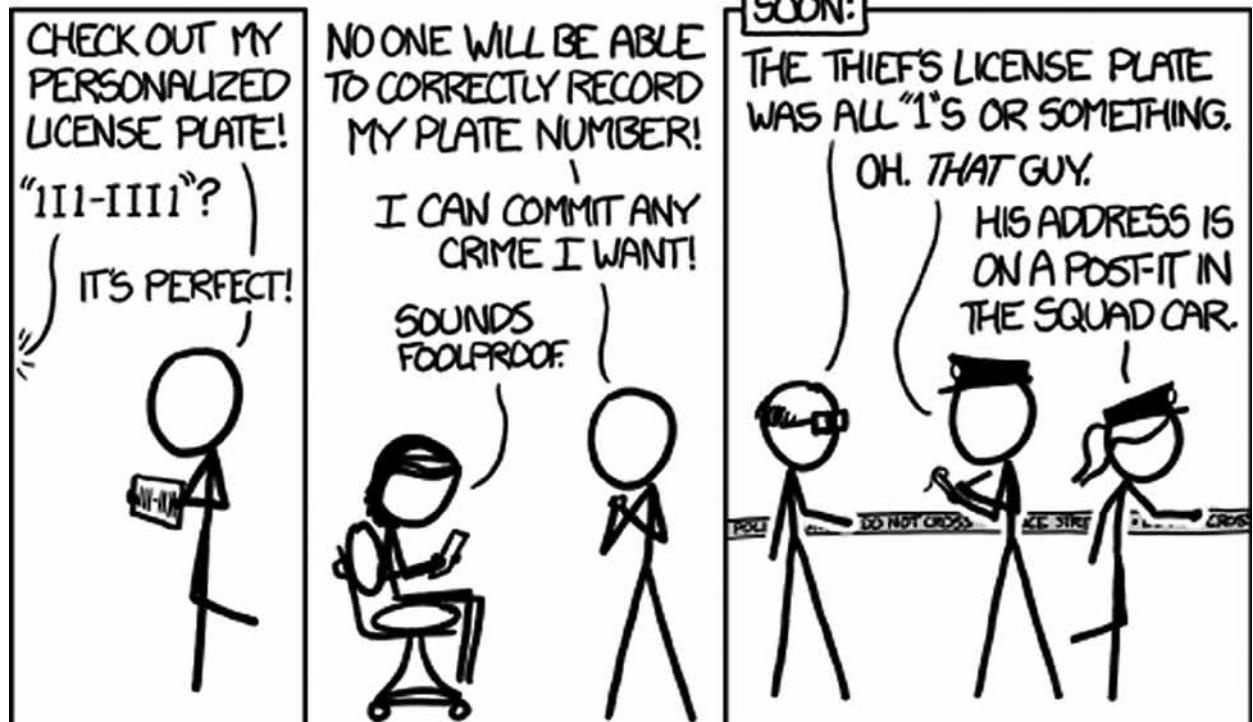
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**A WEBCOMIC OF ROMANCE,
SARCASM, MATH, AND LANGUAGE**
by Randall Munroe

[1105] License Plate



The next day, "What? Six bank robbers?" But I just Vandalized the library! "Nice try. They saw your plate with all the \$ and I's. That's impossible!" I've been with my car the whole time—wait. OK, wow, that was clever of her.

Saturday Stumper by Lars G. Doubleday

Solution, page 12

ACROSS

1 Rhyming tequila brand
9 Palette user
of old
15 Tick, for
example
16 Was lost in thought
17 Crash
18 Part of the border
between the two Congos
19 Broad band of
a sort
20 Make easier
to drive
22 It makes it harder to drive
23 Cup of Champagne
25 Sphere of responsibility
27 Screen villain in a Nehru
jacket
28 Bulge in a trunk
31 Sound around the ears,
perhaps
33 Orchestration abbreviation
34 Wait
37 Lab fixture
38 Eschews

33-1888 —
(form prepa

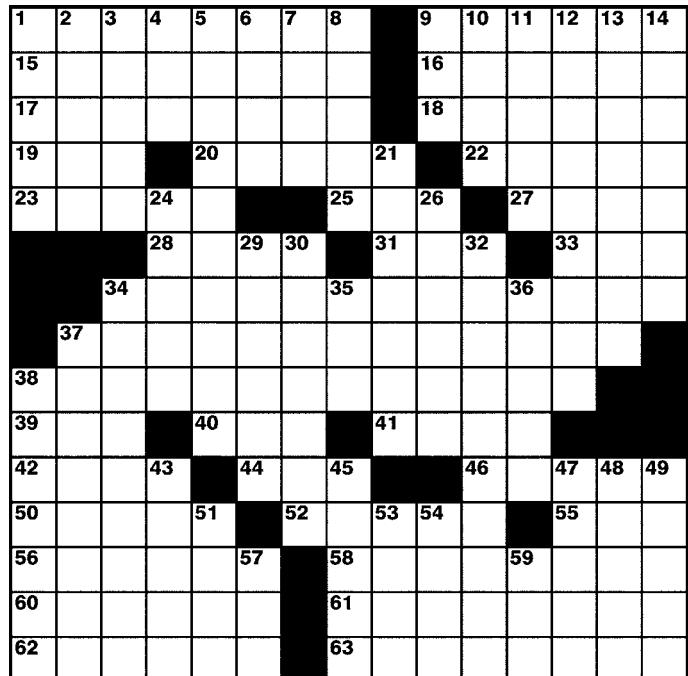
40 YMCA class
41 Time called her the "soul
of romantic comedy"
42 Mop the floor with
44 ". . . apparel
— proclaims the man":
Hamlet
46 Kurt's role in Tombstone
50 Slip
52 Only Indonesian-speaking
President
55 Pokmon Rumble
platform
56 Chalk user
58 Black and Tan ingredient
60 Simple life
61 Academic rank
62 Had great inspirations
63 Salt flats, formerly

DOWN

1 Vespucci contemporary
2 Vespucci landfall of 1499
3 Grounds

4 National Fire Prevention

Mo.
5 Audible mask
6 Queenly in-law of William of Orange
7 Reveal one's gullibility
8 Joe DiMaggio mentor
9 Aaron Spelling alma mater
10 Fathers of cygnets
11 Name on the cover of My Life as an Explorer
12 Opposite of "persona"
13 Take it easy
14 Group paid to strike?
21 Leader of some parades
24 Part of a field hockey uniform
26 Cordon Bleu specialization
29 Quixote's real first name
30 La Bohème hero
32 Cry over spilt milk?
34 Caesar subordinate
35 Piquancy
36 Sri Lankan export
37 Vista

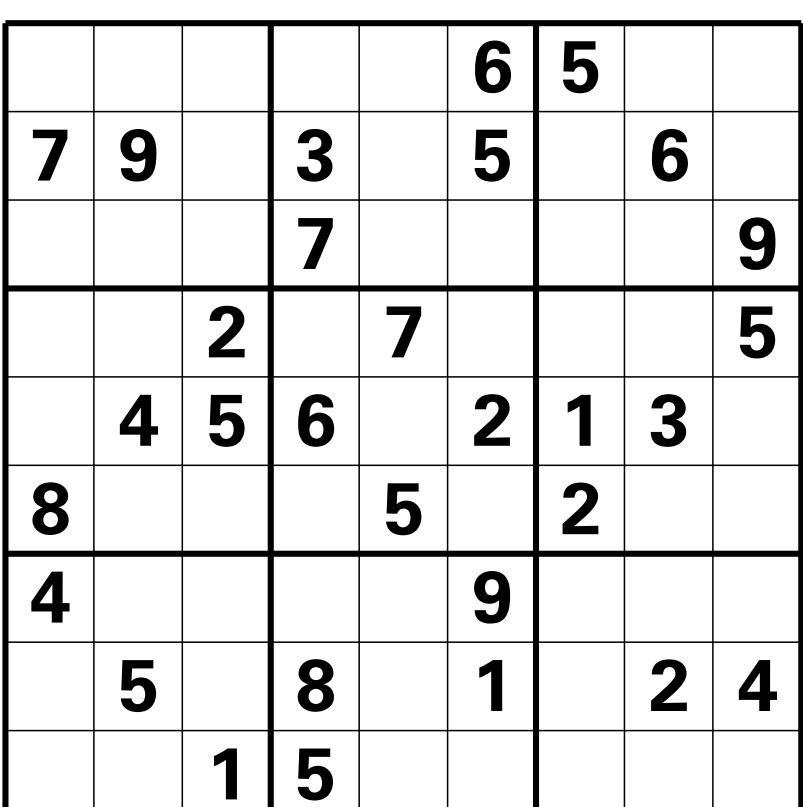


- 38 Bug
- 43 Boarding announcement
- 45 It's quick to mature
- 47 Sophisticated
- 48 Finished a wall, maybe
- 49 Rankings

- 51 Cape kin
- 53 Quarter
- 54 "Crocodile" Dundee's other nickname
- 57 Surfspeak approval
- 59 Propeller center

Sudoku I

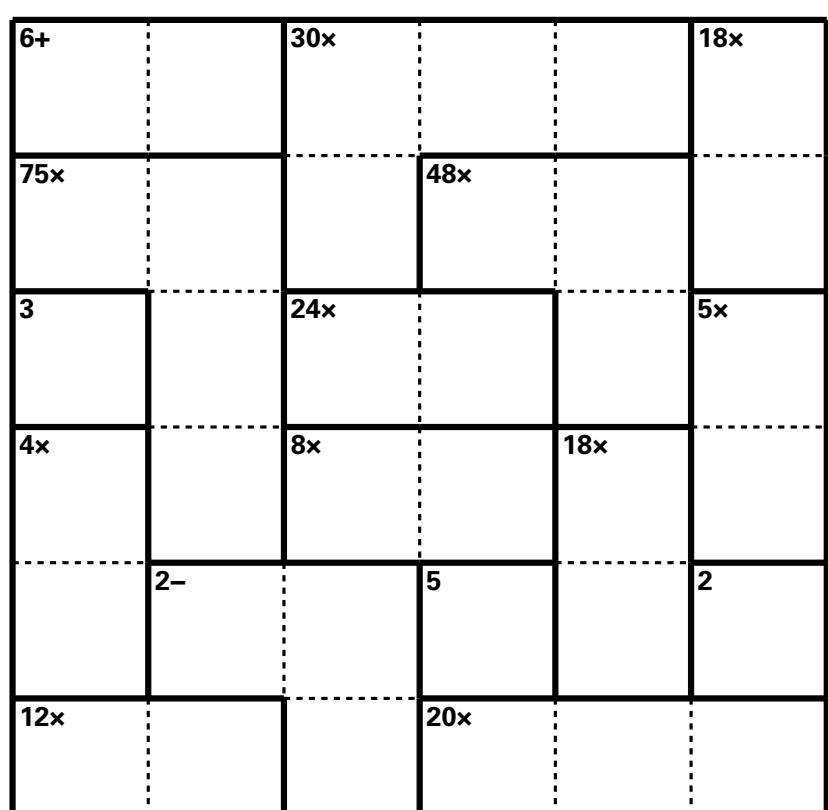
Solution page 15



Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Techdoku I

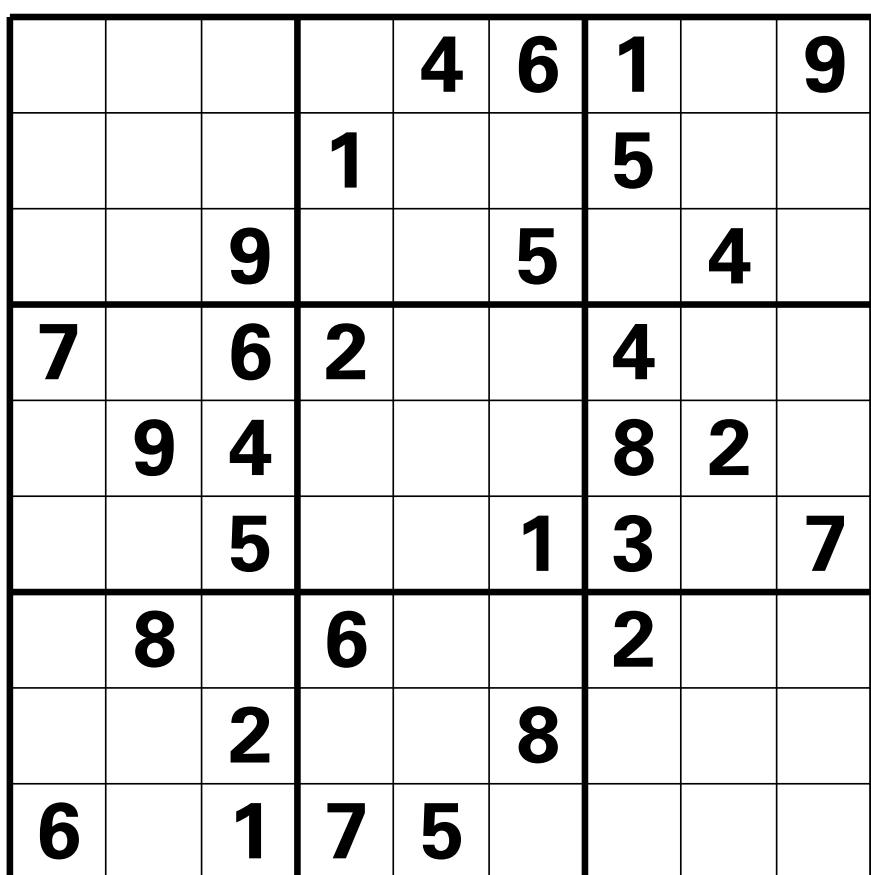
Solution page 15



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Sudoku II

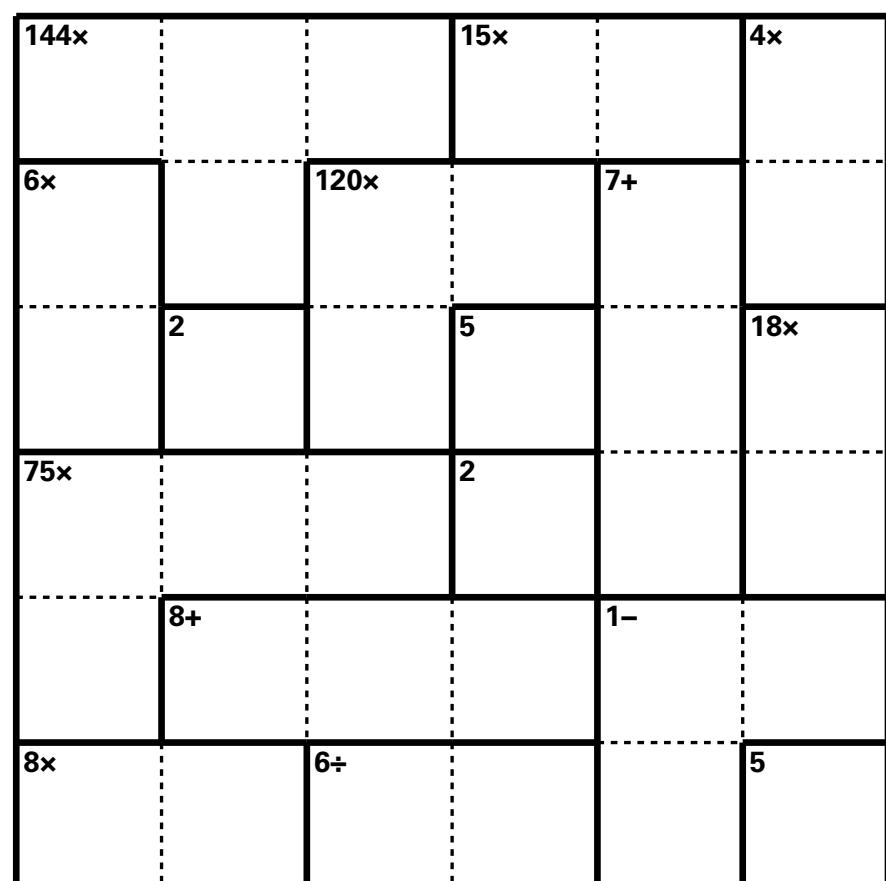
Solution, page 9



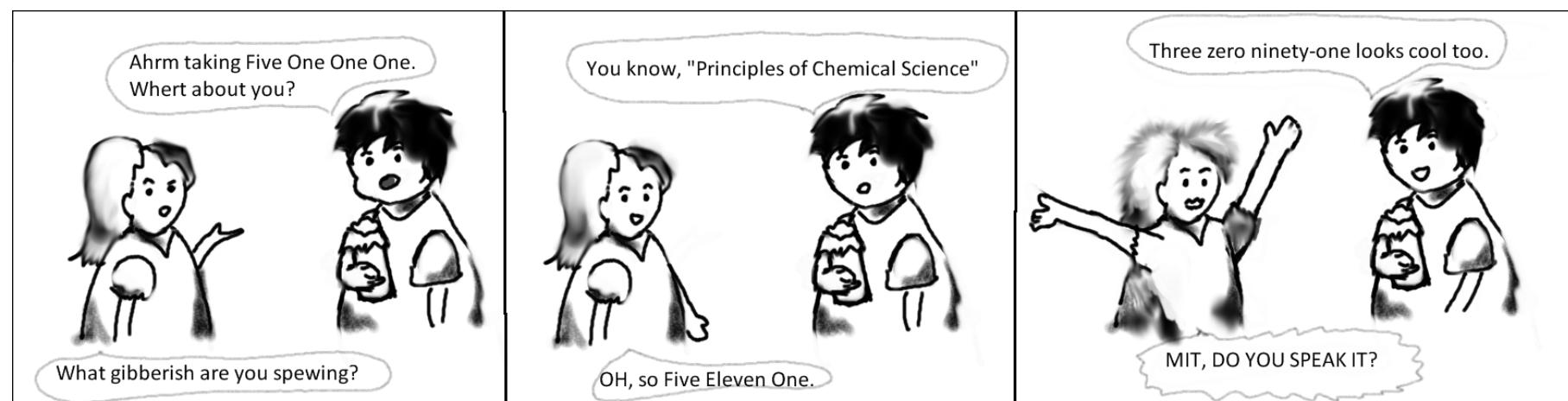
Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Techdoku II

Solution, page 9



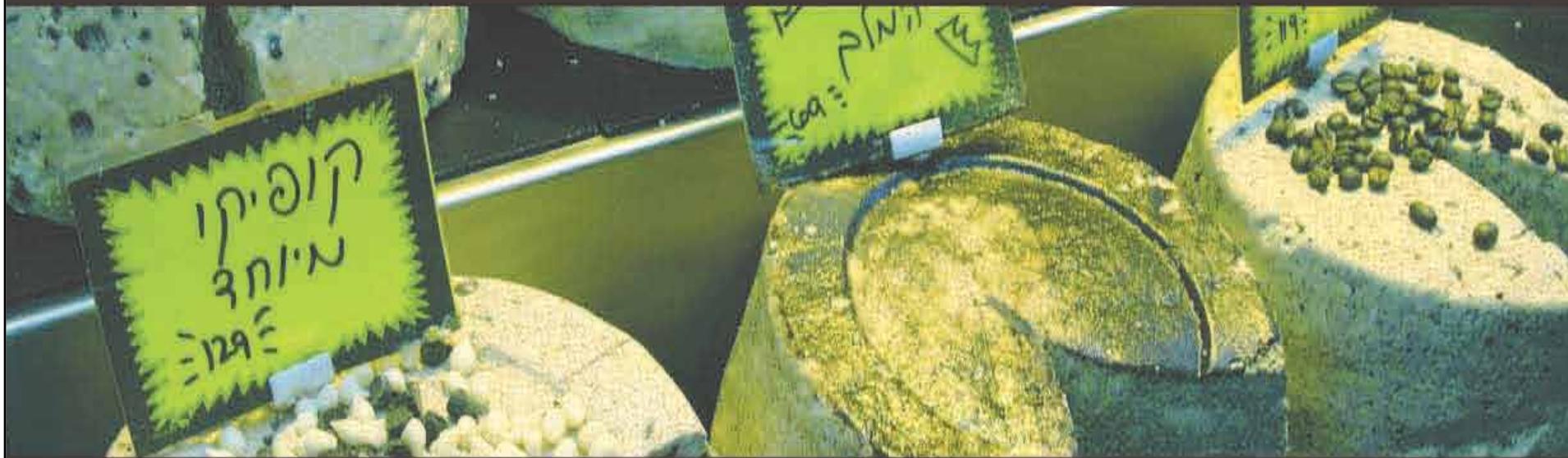
Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

**Beaver Tails** by Ranbel Sun

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Reif's first months as MIT's president

Getting to know MIT community and making plans for the future

Reif, from Page 1

think about designing an environment around the "university of the future." Such a committee would have more students than faculty because, according to Reif, "[faculty] only know how we're teaching ... [you] know what you want to see."

Reif said that some metrics of success in improving MIT's residential education could include whether people want to employ the students and whether students make a difference by creating entities, enterprises, and so forth. "To me, that is what matters," said Reif. "And I just want to do that by using [MIT] technology and recreating or reinventing what we do on campus."

EdX is 'moving quite well,' said Reif, hinting that many more schools may join edX in the future.

Reif also considers impact an important measure, "Are the things we do changing the world? Making it a better place?"

EdX

One of the ventures that arose from Reif's interest in residential education while he was provost was edX, which Reif had a hand in creating. What began as MITx has, in the last six months, grown to contain classes from Harvard and the University of California, Berkeley. EdX is "moving quite well," said Reif, hinting that many more schools may join edX in the future, though developments have been going "as fast as [they] can," and "the platform that we developed is the one with the highest quality."

"After we announced this ... almost every institution you could think of contacted us to jump on that bandwagon," said Reif, adding that the goal for edX is for every institution to "bring something new to the table for the whole world to benefit."

"What we need to think about, and I mean collectively, not just me, ... is how do we use that tool," said Reif, referring to how edX might be used at MIT and other universities. Reif added that how MIT uses edX as a science and technology school may be different than how other schools may use it, and "that requires a high degree of thinking."

RLAD implementation

On June 2, a leaked letter from Chancellor Eric Grimson PhD '80 to the housemasters outlined the administration's plan to place Residential Life Area Directors (RLADs) in nine undergraduate dorms. What followed was a negative response from many students over the facts that no students beyond a small committee under Grimson were consulted in the process. Additionally, it was announced after students had gone home for the summer and at a point where plans could not be changed to a substantial degree.

These events occurred before Reif officially became president, and he said that he does not know the details or specifics of that process. However, Reif emphasized that it is very important to him that before decisions are made, those potentially affected are consulted.

"At the end of the day, somebody has to make a decision, but it has to happen after consultation, not behind closed doors and not informing [those affected]," said Reif. "That is the mental model I would like to proceed [with]."

MITIMCo

Faculty have recently raised concerns over the development of MIT-owned land in Cambridge. The MIT Investment Management Company (MITIMCo) has proposed plans to allocate a significant portion of MIT's real estate to commercial development in long-term leases. This would sharply constrain "future development of educational, housing, recreation, and academic research," according to the May/June 2012 Faculty Newsletter. The faculty, according to the newsletter, feel that MITIMCo's plans would lead to "serious and irreversible damage to MIT's future educational and research missions."

"I think it is valid for people to be concerned about that," said Reif, adding that the newly-formed faculty task force on the issue should return with feedback to Provost Chris A. Kaiser PhD '88 toward the end of September, and Kaiser will then make recommendations to Reif. He added that MITIMCo's plans have been carried out in "complete consensus with the administration," and agreed that the faculty task force would be the beginning of faculty input into future plans.

Student interaction

One other topic that Reif focused on during his acceptance speech was student interaction. Reif stated that he has plans, but hopes that students will give him feedback and ideas for what they want him to do. One of the main plans is having presidential office hours for the entire MIT community, which will be announced "relatively soon." Reif also intends on being out and about MIT by eating at dining halls on occasion, going to music and sporting events, walking around campus, and taking morning and afternoon breaks to get coffee and "see familiar faces and bump into [students]."

The Presidential Transition Advisory Committee is still gathering feedback for Reif from students and the MIT community.

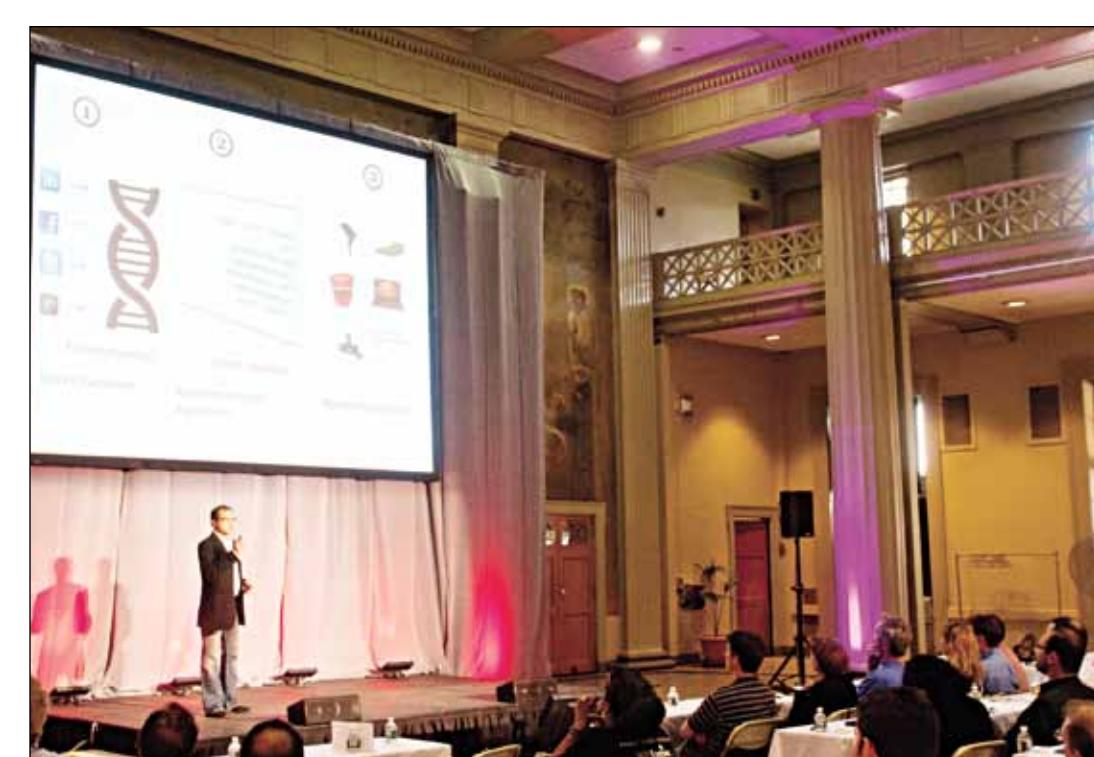
"I really do want the MIT students to know that really actively care for them and the rest of the community," said Reif.

A presidential focus

President before Reif, Susan J. Hockfield focused heavily on putting MIT's weight behind developments in biotechnology and advanced manufacturing during her term. This focus influenced MIT's research focus and relations with those industries.

When asked about what might be his focus in the future, Reif said, "MIT has an amazing potential, and I would even say an obligation to attack the world's greatest challenges. We have some of the smartest students and faculty, and we should work together to do research into those challenges."

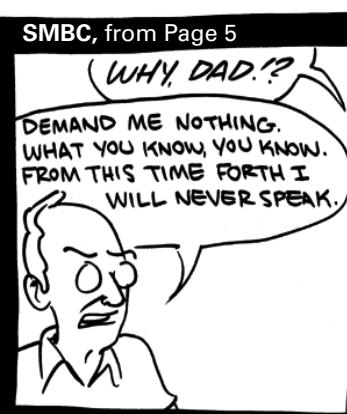
Reif has some ideas for those challenges, but would like the students and faculty to identify specific topics that he can then support. He cited some important challenges as health, biotech, energy, poverty, and food technology, among others, but said that "MIT should pick a few of those — not one, not two, but a few, and work on them."



Fifteen teams from the MIT Founders' Skills Accelerator and MIT Beehive Cooperative presented their entrepreneurial work last Saturday afternoon at Walker Memorial. The teams represented startups in the fields of energy, health care, and software, among others.



Benjamin R. Bond '13 juggles last Friday evening on Killian Court. The MIT Juggling Club holds regular meetings for people to drop in and juggle.



Solution to Sudoku II

from page 7

2	5	3	8	4	6	1	7	9
4	6	8	1	7	9	5	3	2
1	7	9	3	2	5	6	4	8
7	1	6	2	8	3	4	9	5
3	9	4	5	6	7	8	2	1
8	2	5	4	9	1	3	6	7
9	8	7	6	1	4	2	5	3
5	4	2	9	3	8	7	1	6
6	3	1	7	5	2	9	8	4

Solution to Techdoku II

from page 7

4	6	2	3	5	1
1	3	5	6	2	4
6	2	4	5	1	3
3	5	1	2	4	6
5	1	3	4	6	2
2	4	6	1	3	5

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Tobacco

Nemes - Paranoid Social Club - Rolltreppe

Lung cancer treatment study

Existing drugs could treat squamous cell lung cancer

Cancer research, from Page 1

Squamous cell lung cancer, second in frequency only to adenocarcinoma of the lung, kills about 50,000 people each year. That is more than are killed by breast cancer, colon cancer or prostate cancer. While as many as 30 percent of adenocarcinoma patients never smoked, well over 90 percent of squamous cell cancer patients are or were smokers.

Adenocarcinoma of the lung also can be easier to treat than squamous cell cancer. About 30 percent of adenocarcinoma patients have mutations in their cancers that can be targeted by new drugs. Those drugs do not work in squamous cell cancers, whose mutations are different.

The new study compared tumor cells from 178 squamous cell lung cancer patients to the patients' normal healthy cells. More than 60 percent of the tumors had alterations in genes used to make protein and lipid kinases, enzymes that are particularly vulnerable to the new crop of cancer drugs and for which many drugs are already available or are being tested in other cancers.

Kinases, explained Dr. Roy S. Herbst of Yale Cancer Center, who was not an author of the new study, function like on-off switches for cell growth. When they are mutated, the switches are stuck in an on position. About a dozen companies, he added, have drugs that block mutated kinases.

Yet even though the squamous cell cancers analyzed in the study often had kinase mutations, cells have many kinase genes and the mutations were different in different patients.

"Unfortunately, what the Cancer Genome Atlas has revealed is that everyone's cancer could be very different," said Dr. William Pao, a lung cancer researcher at the Vanderbilt-Ingram Cancer Center and an author of the new paper. "The field is

really moving toward personalized medicine."

The study also found a real surprise, Meyerson said, something that had not previously been seen in any cancer. About 3 percent of the tumors had a gene mutation that might allow them to evade the immune system. By coincidence, an experimental drug that unleashes the immune system was recently tested in lung cancer patients. Some of those who did not respond might have the mutation, he said.

The challenge is to put the findings to clinical use.

Now the challenge is to put the findings to clinical use.

First, researchers have to establish that the mutations in question actually are essential to the tumors' growth, said Dr. Bruce Evan Johnson, a lung cancer researcher at Dana-Farber and an author of the new paper. There are several steps: show that if the mutated gene is added to normal cells that they turn into cancerous cells, show that if the mutated gene is added to mice that they develop squamous cell lung cancers, and show that if the gene is turned off in cells grown in a laboratory, with a drug, for example, that the cells die.

Then come drug tests in patients. But if only a small percentage of patients have each of the mutations, that poses a problem. Ordinarily a few medical centers would enroll patients with a particular type of cancer, like squamous cell. But if, instead, squamous cell patients are subdivided according to their particular gene mutations, there would be too few for a drug test within a single institution or even several.

So the plan is to cast a wider net. The major medical centers intend to form a consortium. In it, each center would direct one or more studies of one mutation and one

drug that might home in on the specific mutation. So even though only a small percentage of squamous cell cancer patients would have that mutation, patients across the country could be in a clinical trial of a targeted drug. A patient's own doctor could administer the drug and the medical center directing the trial could analyze the data in partnership with the company that makes the drug.

That sort of system worked for adenocarcinoma, Johnson said, allowing researchers to test drugs that work for only 2 to 3 percent of patients.

And the work can move fast, he added. A Pfizer drug, crizotinib, which targets a rearranged gene in some adenocarcinomas, entered clinical trials in 2008 for lung cancers with the rearrangement. The results were reported in 2009 and were published in 2010. Crizotinib was approved in 2011 for patients with the gene rearrangement. The rearrangement was so rare that about 1500 patients were tested to find 82 whose cancers had it. They were the ones included in the study.

For Pfizer, the experience was transformative.

"The old way of doing clinical trials where patients are only tied together by the organ where their cancer originated, those days are passing," said Dr. Mace Rothenberg, senior vice president of Pfizer oncology.

Johnson too sees it as a wave of the future.

"That was the first time we really went after the genetic abnormality," he said.

Now, he said, with squamous cell cancer, "we are sort of where we were four or five years ago with adenocarcinoma."

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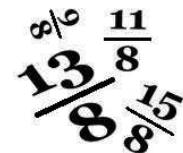
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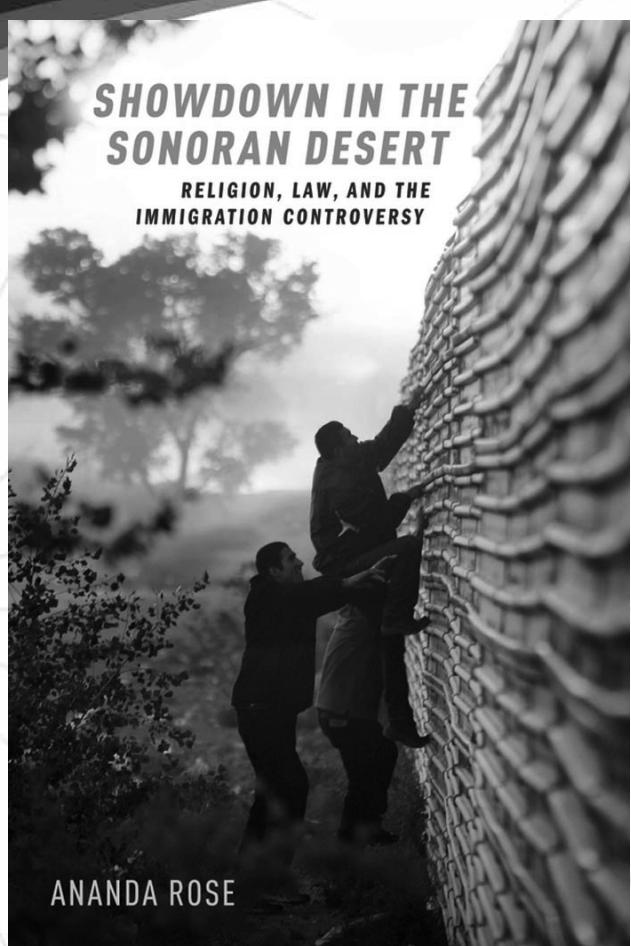
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And how should we
regard "the stranger" in
our midst?

ANANDA ROSE

Book talk with Ananda Rose

Ananda Rose holds a doctorate from Harvard University. She is a published poet, journalist, and theologian. Her book, *Showdown in the Sonoran Desert*, Oxford University Press, was published in June 2012.



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Solution to Crossword

from page 6

C	A	B	W	A	B	O	S	C	R	I	B	E
A	R	A	C	H	N	I	D	M	O	O	N	E
B	U	S	T	I	N	T	O	U	B	A	G	I
O	B	I	T	E	E	U	P	S	L	E	E	T
T	A	S	S	E	L	A	P	D	R	N	O	
K	N	A	R	C	A	W	S	T	R			
C	O	O	L	N	E	S	H	E	E	L	S	
P	E	R	I	O	D	C	T	A	B			
W	A	N	T	S	N	O	P	A	R	T	O	
I	N	T	E	S	L	R	Y	A	N			
R	O	U	T	E	O	F	T	W	Y	A	T	
E	R	R	O	B	A	M	A	W	I			
T	A	I	L	O	R	I	R	S	H	A	L	E
A	M	O	E	B	A	L	E	C	T	U	R	E
P	A	N	T	E	D	L	A	K	E	B	D	E

Institute Double Take



By Nora Vrublevska

Alexander Calder's La Grande Voile (Big Sail) outside the Green Building is one of the modern sculptures seen on campus. The long

exposure captures the fine texture of steel and bolts together with star and plane trails in the night sky.

Aperture:
f/11

Exposure Time:
16 min.

Film:
Fuji Neopan Acros 100
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38 mm (60mm on medium format)

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Date: Friday, September 21st
Time: 11:00 a.m. – 5:00 p.m.
Place: Johnson Athletics Center (W 34)

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Hockfield at HKS

To spend one year as visiting prof

Hockfield, from Page 1

gists can have greater impact on policy," wrote the Belfer Center's director, Graham Allison, in an email to *The Tech*. "That is a central question for the Center for Science and International Affairs, so we look forward to collaboration with her and others."

Hockfield will not teach any classes.

Hockfield derives her relevant experience from advocating using research universities to promote innovation and economic growth during her presidency at MIT. In September 2006, MIT launched its Energy Initiative (MITEI) to improve energy systems to meet future needs. In June 2011, Hockfield was asked by President Barack Obama to co-chair the Advanced Manufacturing Partnership's steering committee.

Although Hockfield will not teach any classes, Harvard students will be able to interact with her through Belfer Center and HKS events and other activities, according to Ellwood.

"Following 14 years in academic leadership, the Kennedy School and the Belfer Center provide an ideal environment for reflection, study and conversation. I'm delighted to join this remarkable community," said Hockfield in a statement.

Although the visiting professor appointment is only for one year, Allison wrote, "If she wanted to stay longer at Belfer, we would love to have her."

"I have long admired Susan Hockfield's passion and dedication as a research scientist, university leader, and national policy advocate," wrote Ellwood. "Hers is a track record of remarkable distinction, and we are thrilled to welcome President Hockfield to the Kennedy School."

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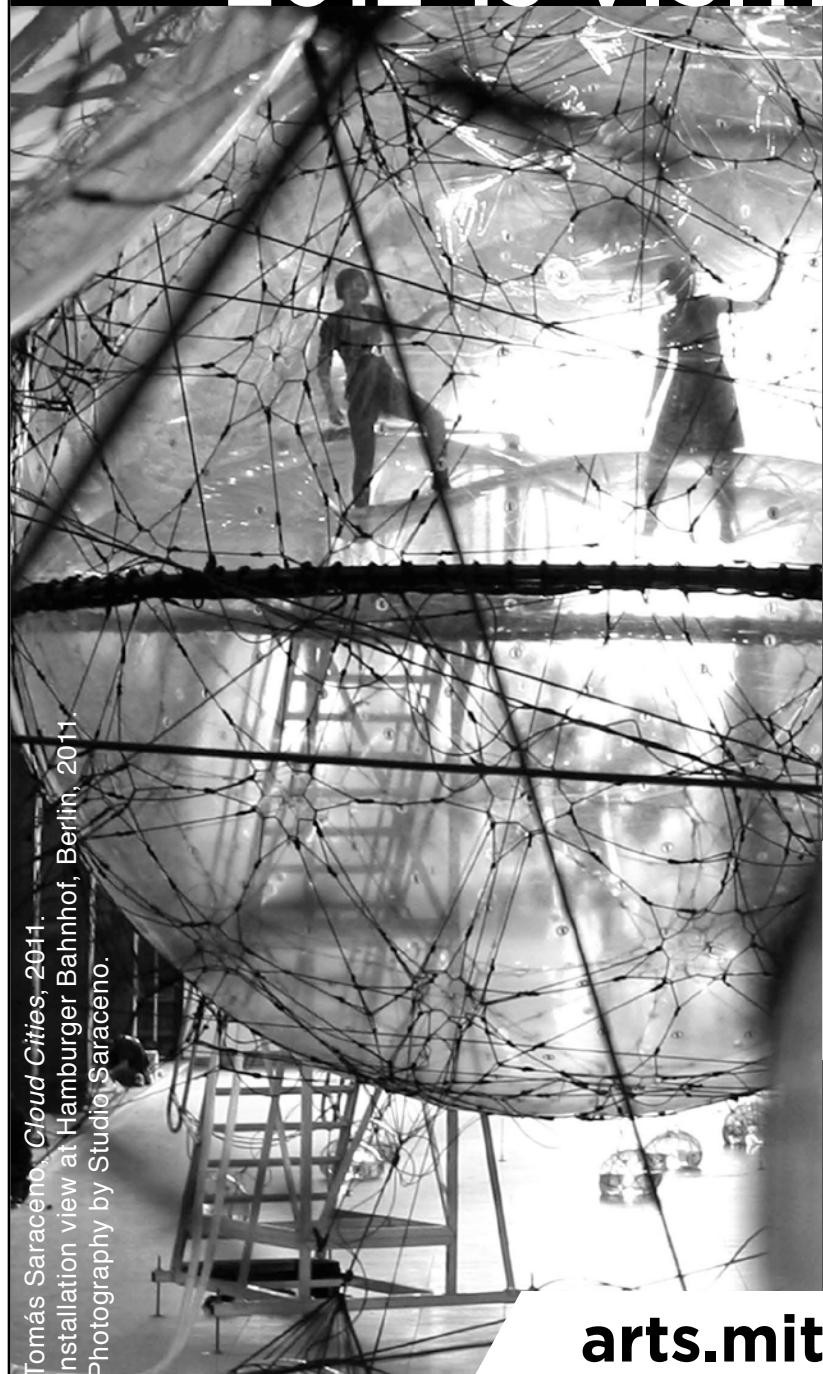
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Tomás Saraceno, *Cloud Cities*, 2011.
Installation view at Hamburger Bahnhof, Berlin, 2011.
Photography by Studio Saraceno.

MEL CHIN AND RICK LOWE

Artists and Community Planning

Presentation: September 24, 7:00 PM | Bartos Theater

VIK MUNIZ

Waste Land Screening: October 2, 6:30 PM | E14 Little Theater

Presentation: October 3, 6:30 PM | Bartos Theater

JOHN AKOMFRAH AND LINA GOPAUL

Handsworth Songs Screening: October 29, 7:00 PM | Bartos Theater

The Nine Muses Screening & Discussion: October 30, 7:00 PM | ACT Cube

DON BYRON

Gospel Concert: October 27, 7:30 PM | Kresge

MIT Wind Ensemble Concert: March 16, 8:00 PM | Kresge

TOMÁS SARACENO

MIT Center for Art, Science & Technology Visiting Artist

Moving Beyond Materiality

Panel Discussion: November 15, 6:30 PM | SA+P Long Lounge

GUILHERME MARCONDES

Animation Demo & Discussion: January 24, 5:00 PM | MIT Museum

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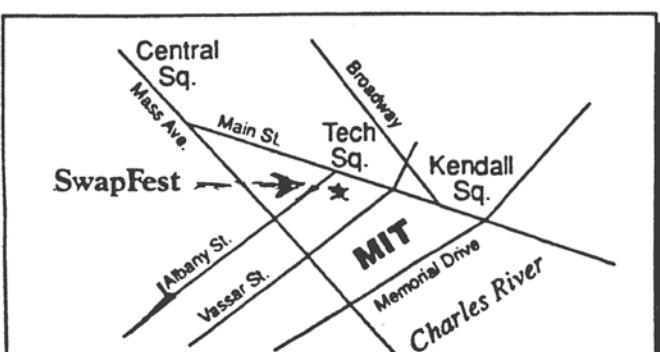
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```
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if you.interest == True:
    print "E-mail join@tech.mit.edu"
```

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New England Patriots expected to dominate AFC East

Baltimore and Pittsburgh will lead the AFC North as Schaub and the Texans take the South

By Austin Osborne
SPORTS WRITER

AFC East

1. New England Patriots (14-2)
2. Buffalo Bills (9-7)
3. New York Jets (9-7)
4. Miami Dolphins (2-14)

As long as Tom Brady and Bill Belichick are around, the Patriots will be one of the most dominant teams in the NFL. They've upgraded their receiving corps with the acquisition of Brandon Lloyd and hope to build on Rob Gronkowski's record-shattering 2011 campaign. They also play in one of the easier divisions in the AFC, so they should have no problem cruising to the playoffs.

Buffalo started out last season strong on the legs of Fred Jackson until he suffered a leg injury that ended his year. The Bills proceeded to fade out of the picture, as they just could not replace Jackson's production. This year, Jackson is healthy once again and Buffalo's offense should put up a lot of points with Steve Johnson and ever-improving Harvard grad Ryan Fitzpatrick. They upgraded their pass rush in the offseason by signing one of the premier defensive ends in the league, Mario Williams. He will immediately improve a defensive front that only amassed 29 sacks last season, which was good for 27th in the league.

The media circus that is the New York Jets added perhaps one of the most polarizing players to ever play in the NFL, Tim Tebow. Considering he will primarily be the team's backup, he has garnered much media coverage this summer and seems to have the locker room split as to what his role should be. Just know that if Mark Sanchez doesn't improve significantly this season, fans will be clamoring for Tebow. No team can compete at a high level with the level of distraction and disorder the Jets have in their locker room, so this year may be another one filled with underachievement.

Miami drafted their quarterback (QB) of the future last April, as they selected Ryan Tannehill, eighth overall from Texas A&M. Tannehill has many skeptics, however, and it remains to be seen whether or not he will be able to run an NFL offense. The Dolphins have more problems than their quarterback, however. With no receivers to speak

of, Tannehill will not have many reliable targets to stretch the field and make plays, so the Dolphins may be in for another year of rebuilding.

AFC North

1. Baltimore Ravens (11-5)
2. Pittsburgh Steelers (11-5)
3. Cincinnati Bengals (10-6)
4. Cleveland Browns (2-14)

The AFC North always seems to come down to Baltimore and Pittsburgh. Baltimore has been known for the past decade for their suffocating defense, with the main figurehead being middle linebacker (LB), Ray Lewis. Lewis is entering his 13th season, but even at 37, he doesn't appear to be slowing down. The loss of Terrell Suggs will definitely impact the Ravens' going forward, but not enough to stop them from fighting it out for the division crown. Joe Flacco has now proven that he can win in the playoffs, and the Ravens have one of the best runningbacks (RB) in the league, Ray Rice.

No team can compete at a high level with the level of distraction and disorder the Jets have in their locker room.

The Steelers always seem to be involved come January. Like the Ravens, they also pride themselves on strong defense and power running. QB Ben Roethlisberger will be aiming to make up for his awful performance in the 2012 playoff game against an inferior Denver Broncos team. With much of the team returning this season, the Steelers will continue to search for their seventh Super Bowl victory.

Cincinnati was one of the surprises last season, led by rookies Andy Dalton and A.J. Green. With a full year and a full training camp (last season, training camp was canceled due to the lockout), they should both see massive improvements on their already impressive rookie seasons. It will remain to be seen whether or not their defense will be able to keep up with the bruising style of the Ravens and Steelers, but they should be able to hold their own and be in prime position to make their second consecutive playoff appearance.

There isn't much to look forward to in Cleveland this season. The only real bright spots on the team are offensive lineman Joe Thomas, cornerback (CB) Joe Haden, and new rookie RB Trent Richardson. Other than Thomas, however, the Browns don't have much of an offensive line to speak of, and they also have no QB to force defenses to respect the pass. This may mean that Richardson is in for a rough rookie season. Especially in this division, which is considered by many to be the best in football, Cleveland has no chance to compete this year.

AFC West

1. Oakland Raiders (10-6)
2. Denver Broncos (9-7)
3. San Diego Chargers (6-10)
4. Kansas City Chiefs (2-14)

Last season, Oakland made a huge splash by trading many of their future draft picks for former Cincinnati pro-bowler Carson Palmer. Palmer was fairly effective for the Raiders, even with his 16 interceptions in 10 games, and he brings some stability to a position that has lately been filled by the likes of Jamarcus Russell, Jason Campbell, and Bruce Gradkowski. They also have a promising young stud RB in Darren McFadden who should be able to loosen up the passing game for Palmer by forcing the defense to respect the run. In this incredibly weak division, the Raiders may have just enough to sneak into the playoffs and make a run.

Denver has been a media circus for the past 12 months. First, it was Tim Tebow's magical run to lead the Broncos to their first playoff win since 2006. Then, in the offseason, news broke that Denver had signed Peyton Manning after coming off multiple neck surgeries. This was an incredibly risky move, but it may just pay off. Denver's success last season was due in large part to their stifling defense and clutch kicking. They seemed to be winning in spite of Tebow (even though he was receiving the majority of the credit for the wins). If Manning can provide even half of the production that he did in Indianapolis, the Broncos could be a very formidable team this season. This is moot, however, if Manning's neck isn't completely healed or affects his throwing motion too much.

The Chargers are an enigma. They seem to be favored every year,

and every year they start off slowly and come around too late. They certainly have enough talent to be a Super Bowl contender, anchored by QB Philip Rivers and tight end Antonio Gates, but they never are able to take advantage of all their talent. There is no reason to believe this season will be any different. They lost their best wide receiver, Vincent Jackson, to Tampa Bay, which will really slow down their passing attack which used to be so deadly. Without one of their biggest playmakers in Jackson, San Diego will probably be another middle-of-the-pack team.

Kansas City (KC) is another team with plenty of talent to succeed, but they never seem to be able to compete at a high level.

It may be due to the quarterback play of Matt Cassel. After filling in admirably for Tom Brady when he went down with a knee injury, Cassel signed with the Chiefs in hopes that he would revive the franchise. He showed promise in 2010, amassing over 3,000 yards and earning a quarterback rating of 93.0 (league average is between 75.0 and 85.0), but he was not performing well in 2011 before he got injured. The Chiefs also lost their star RB Jamaal Charles to a season-ending ACL tear, which could sap some of the speed and quickness that he is known for. With Dwyane Bowe on the outside, this offense has incredibly high potential to be dangerous if Cassel can replicate his 2010 season. On defense, LB Tamba Hali and CB Brandon Flowers are some of the most underrated and underappreciated players in the league. In the end, KC just has too many holes, including questionable QB play, to compete this year.

AFC South

1. Houston Texans (12-4)
2. Tennessee Titans (6-10)
3. Indianapolis Colts (6-10)
4. Jacksonville Jaguars (2-14)

The Houston Texans are my personal pick to represent the AFC in the Super Bowl this season. If QB Matt Schaub hadn't gotten injured at the end of last year, this Texans team would have been poised to make a deep run in the playoffs. They have very few weaknesses at any position, although the loss of Mario Williams will hurt this ferocious pass rush. Defensive end J.J. Watt will have to fill the gap left by Williams, but he should be up to the challenge. They have one of the

most athletically gifted wide receivers (WR) in the league in Andre Johnson, and Schaub has the ability to pick secondaries apart if given the time.

The Titans have decided to turn the offense over to second-year QB Jake Locker, who was very impressive last year in four starts, going undefeated and having a passer rating near 100. They hope to get more production from star RB Chris Johnson this season as well, as he had a number of rough games last year. The addition of Kamerion Wimbley should help a very young and inexperienced defense, but Tennessee will struggle to pick up wins this season.

Indianapolis is going through a complete rebuilding of their roster. With the loss of a player of Peyton Manning's caliber, many organizations would spend years attempting to replace the production lost. But like the Packers a few years ago with Aaron Rodgers replacing Brett Favre, the Colts seem to already have solidified their new quarterback of the future in first overall pick, Andrew Luck. Luck has been highly touted by draft experts and football analysts alike. His career at Stanford was extraordinary, and he is said to be the most complete quarterback prospect since none other than Peyton himself. It will be interesting to watch Luck develop this season, but until the Colts surround him with more talent, I don't see them making much of a splash in the very tough AFC.

Jacksonville simply lacks the talent to compete. Outside of Maurice Jones-Drew, the Jaguars really do not have any offensive weapons. They signed former Cowboys WR Laurent Robinson, who had a good year last year, but that may be because most of the defense's attention was diverted to Dez Bryant, Miles Austin, and Jason Witten. They also drafted Oklahoma State WR Justin Blackmon, but he was shortly thereafter arrested for a DUI. There is no doubt that he has talent, but these off-field distractions may cause more problems for the Jags in the long run. Second-year QB Blaine Gabbert looked absolutely horrendous at times last year, but for now he is all Jacksonville has. They hope that he can develop some this year and cut down on the interceptions, but this already has the makings of a lost season.

Solution to Sudoku I

from page 8

1	2	3	4	9	6	5	7	8
7	9	8	3	1	5	4	6	2
5	6	4	7	2	8	3	1	9
6	3	2	1	7	4	9	8	5
9	4	5	6	8	2	1	3	7
8	1	7	9	5	3	2	4	6
4	7	6	2	3	9	8	5	1
3	5	9	8	6	1	7	2	4
2	8	1	5	4	7	6	9	3

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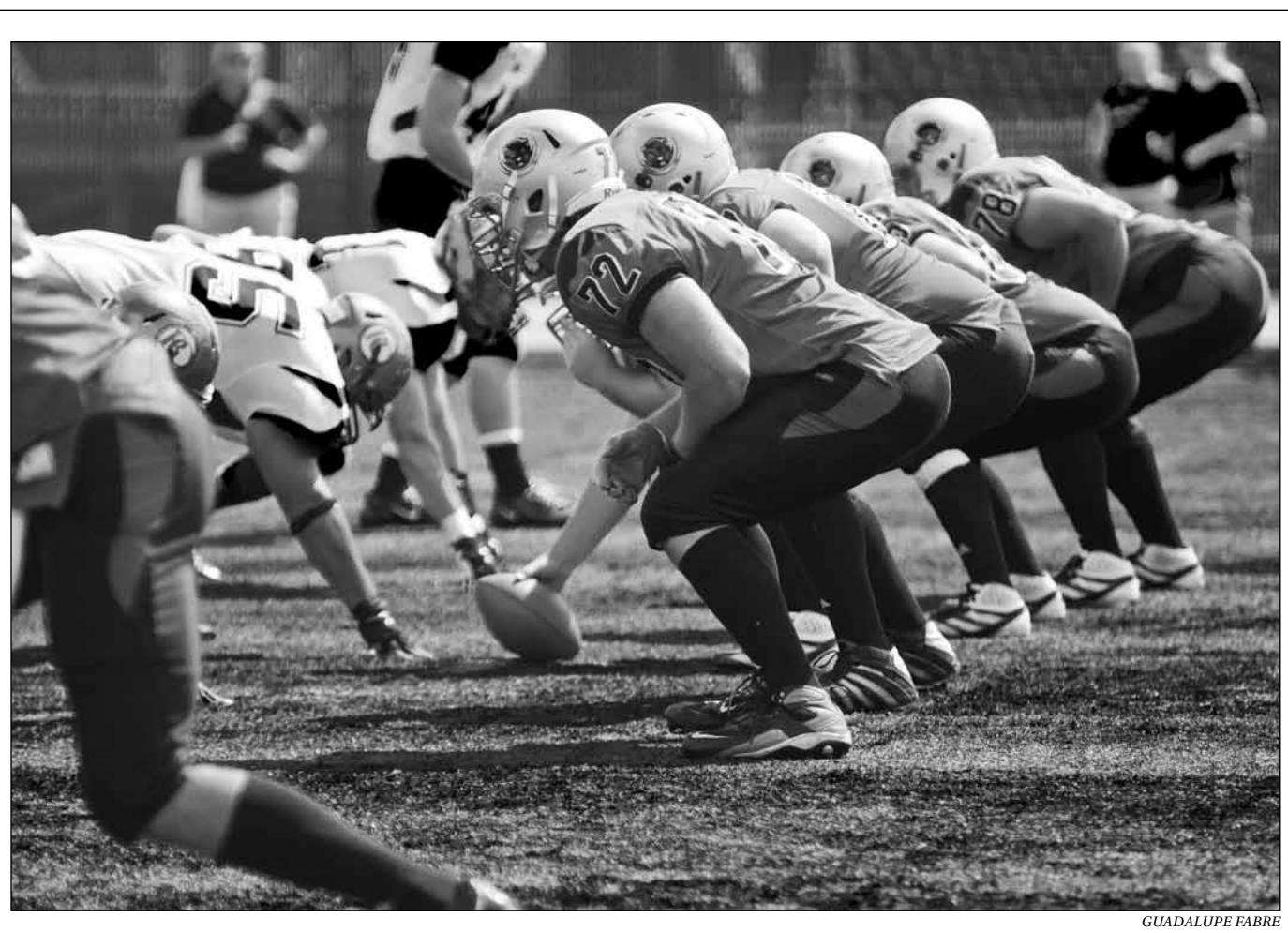
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2	4	5	3	1	6
5	1	2	6	4	3
3	5	6	4	2	1
1	3	4	2	6	5
4	6	1	5	3	2
6	2	3	1	5	4

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The offensive line prepares for the football to be snapped during the team's season-opening game against Becker College. The team won 28-21.

GUADALUPE FABRE

Women's tennis wins first game

MIT crushes Assumption, 9-0

By Phil Hess
DAPER STAFF

It was a fine start to the 2012 season for the No. 30 MIT women's tennis team as the Engineers downed Assumption College, 9-0. Junior Lauren C. Quisenberry and freshman Victoria Tam got things started for MIT with an 8-0 win at No. 1 doubles.

After the win at No. 1 doubles, the duo of Michelle M. Dutt '15 and Sunnie E. Lampl '16 scored an 8-0 win in their match at No. 3 to give the Engineers a 2-0 advantage. Junior Julia C. Hsu '14 and senior Candace Wu '13 completed the doubles sweep with an 8-2 win at No. 2.



Julia C. Hsu '14 reaches for a volley in doubles tennis. She and Candace Wu '13 won the match with a score of 8-2, contributing to an overall 9-0 win for the women's tennis team last Saturday.

Quisenberry continued to cruise in singles play, taking the easy 6-0, 6-0 win in the No. 1 singles match. Vinnie J. Kong '15 clinched the team win for MIT at No. 2 with a 6-0, 6-1 win. MIT went on to take the remaining singles matches in straight sets as well, with Wu winning 6-0, 6-1 at No. 3 and Tam taking a 6-2, 6-1 win at No. 4. Dutt and Hsu completed the sweep for the Engineers, with Dutt coming out on top by a 6-1, 6-2 score at No. 5 and Hsu gaining the 6-3, 6-1 decision at No. 6.

MIT will open the New England Women's and Men's Athletic Conference play at Springfield College on September 15th, its next match.



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